

Notice of Allowability

Application No.

10/782,097

Examiner

April S. Guzman

Applicant(s)

NODA ET AL.

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2007.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>02/19/2004</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 10/29/2007, have been fully considered and are persuasive. The rejection of claims 1-15 have been withdrawn.

Allowable Subject Matter

Claims 1-15 are allowed.

The following is an examiner's statement of reasons for allowance:

Consider **claims 1, 8, 12, and 14**, the best prior art of record **Heinonen (U.S. Patent # 5,896,562)**, fails to specifically teach a digital signal transceiver comprising: a frequency modulator for outputting a modulated signal in a transmitting mode, and for outputting a non-modulated signal in a receiving mode, the frequency modulator comprising: a reference signal generating unit for generating a reference signal, a voltage-controlled oscillator for outputting one of the modulated signal or the non-modulated signal having a frequency varying according to a voltage input thereto, a frequency divider unit that switches between a modulating frequency divider and a non-modulating frequency divider, the non-modulating frequency divider receiving a signal output from the voltage-controlled oscillator, the non-modulated signal divider receiving a signal output from the voltage-controlled oscillator and outputting a non-modulated signal, and the modulating frequency divider receiving the signal output from the voltage-controlled oscillator and a modulating signal and outputting the modulated signal, a phase comparator for comparing one of the modulated signal or the non-modulated signal output from the frequency divider unit with the reference signal in phase, a charge pump for receiving the signal output

from the phase comparator and for outputting a first current in the transmitting mode and a second current in the receiving mode according to the signal output from the phase comparator, a low pass filter receiving the first and second currents and outputting the signal input to the voltage-controlled oscillator, a power amplifier for receiving an output signal from the frequency modulator; an antenna terminal arranged to be connected to an antenna; an antenna switch comprising a first branch port for receiving a signal output from the power amplifier, a common port connected to the antenna terminal, the common port being connected to the first branch port in the transmitting mode, and a second branch port connected to the common port in the receiving mode; a filter having an input port thereof connected to the second branch port of the antenna switch; a high-frequency amplifier having an input port thereof connected to an output port of the filter; and a mixer for mixing a signal output from the high-frequency amplifier with the signal output from the frequency modulator to output a signal including the signal from the high-frequency amplifier and the signal from the frequency modulator.

Heinonen discloses a transmitter/receiver for transmitting and receiving an RF signal in two frequency bands (using DCS or GMS). The transmitter/receiver includes a synthesizer 340 which generates a signal having an output frequency controlled by changing the diving number Y in a divider 342 (column 5 lines 52-58). Thus, the output of synthesizer 340 is a non-modulated signal. The output of synthesizer 340, which is a non-modulated signal, is frequency divided at frequency divider 311 and 361. The output of frequency divider 311 is provided to both the DCS and GMS receiver circuitry (column 5 lines 40-51). The output of frequency divider 361 is provided to both DCS and GMS transmitter circuitry (column 6 lines 1-12). The output of frequency divider 311 is connected through switches 315 and 335 to mixer 316 and

336, respectively and the output of frequency divider 361 is connected through switches 363 and 383 to mixers 362 and 382, respectively. Thus, the outputs of the signals from both frequency dividers 311 and 361 are non-modulated because their outputs are connected to mixers 316, 336, 362 and 382. These teachings differ from the claimed invention; therefore, claims 1, 8, 12 and 14 of the present application are considered novel and nonobvious over the prior art and, consequently, are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street

Application/Control Number:
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Art Unit: 2618

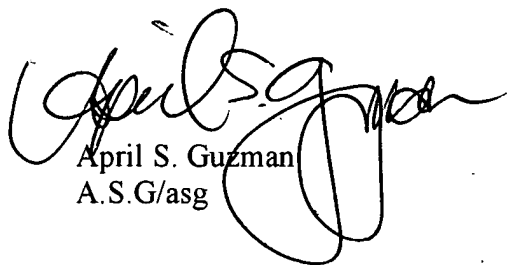
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Alexandria, VA 22314


Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana Le can be reached on 571-272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



April S. Guzman
A.S.G/asg



12-24-07
LANA LE
PRIMARY EXAMINER